

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 June 2005 (02.06.2005)

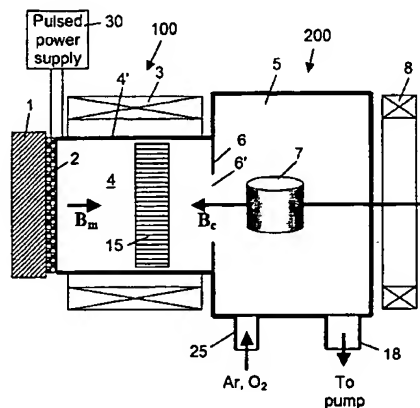
PCT

(10) International Publication Number
WO 2005/050696 A1

- (51) International Patent Classification⁷: **H01J 37/34**, C23C 14/35 (74) Agent: **BERGENSTRÄHLE & LINDVALL AB**; P.O.Box 17704, S-118 93 STOCKHOLM (SE).
- (21) International Application Number: PCT/SE2004/001742 (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 24 November 2004 (24.11.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0303136-6 24 November 2003 (24.11.2003) SE (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
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- Published:
— with international search report

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(54) Title: METHOD AND APPARATUS FOR REACTIVE SOLID-GAS PLASMA DEPOSITION



(57) Abstract: A device for magnetically enhanced sputtering and plasma deposition includes a plasma source unit (100) and a work piece processing unit (200) in which an anode space (4) and a processing chamber (5) are located in direct communication with each other. Sputtering and reactive gases are provided through an inlet (25) of the processing chamber holding the work piece (7). Pulsed electric discharges are produced between the magnetron sputtering cathode (1, 2) and the anode, including walls (4') of the anode space. A stationary magnetic mirror trap is provided in the combined vessel by an anode coil (3) surrounding the anode space and another coil (8) mounted at the processing chamber remote from the cathode. A plasma can then flow into the processing chamber suitable for reactive deposition on three-dimensional and large work pieces. A chemisorption filter (4', 15) including filter plates is arranged in the anode space for preventing penetration of the reactive gas into the region at the cathode. The other coil can be included in a plasma source similar to the first one, both plasma sources connected to the same work piece processing unit.

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